

HUMAN PROGRESS.

BY JOSEPH BARKER.

THERE are three opinions with regard to human affairs:

1. The first, that they are continually getting worse:
2. The second, that they are stationary:
3. The third, that they are evermore progressing or improving.

1. The first opinion is the most ancient. We find it in the oldest writings that have come down to our times. The Poets of Greece and Rome sing of a time when men were all healthy and strong, virtuous and happy, and lived, without care and without pain, to a good old age,—a time when the oppressive heat of summer, and the terrible rigours of winter were alike unknown, and when the earth yielded without culture whatever was needful to the support and comfort of her children. We meet with similar representations in the Poets and Fabulists of other nations. All sing the praises of the past, and lament the degeneracy of the present.

The same opinion, somewhat modified, is entertained by numbers at the present day. We meet with men both in the old world and the new, who think there are no men now, either in church or state, to be compared with the worthies of other days. Their forefathers were giants, both intellectually and morally, compared with us; and we are but pigmies compared with them.

2. The opinion that things are stationary is not so ancient; yet we meet with it in writings of great antiquity. It is advocated by one of the speakers in the Book of Ecclesiastes. "The thing that *hath* been," says he, "is that which

shall be; and that which *is* done, is that which *shall* be done, and there is no *new* thing under the sun." We meet with the same sentiment in the Roman Poet Manlius :

"The world is still the same, and still the same shall be:
That which our Grandsires saw, our Sons shall see."

And still we meet with men who regard all hopes of better days as fallacious, and all schemes or efforts for the elevation of our race as visionary. "You cannot alter the nature of man," say they, "or change essentially the state of society."

3. The doctrine of Progress is comparatively modern, and is regarded by many with suspicion and dread. Yet it has many friends, and their number is daily increasing. It ranks among its disciples and advocates the best and noblest spirits of the age. Our leading Philosophers and Statesmen acknowledge its truth, and employ their talents and influence in its favour. The most active spirits among all classes, in every civilised nation, are making the doctrine of Progress the leading article of their creed. It has won the hearts of our sweetest poets, and through its inspirations they have enriched our literature with a number of the most touching and enchanting melodies that ever cheered or charmed the heart of man.

Raising their voices in a chant sublime,
They sing the glories of the coming time,
When error shall decay, and truth grow strong,
And right shall reign supreme, and vanquish wrong.

There may be a difference of opinion among us as to which of these three doctrines is the *true* one, but there can be none as to which is the most cheering. The doctrine that all things are going to decay,—that vice and misery are continually increasing, and destined to go on increasing,—is truly dismal; and the doctrine that things are to be for ever stationary is not much better. The doctrine of progress, on the contrary, is full of hope and joy and consolation.

Nor will there be any difference of opinion among us as to which of these doctrines is the most beneficial in its influence on man's heart and character. The influence of the first two is plainly injurious. Their tendency is to chill the noblest affections of man's nature, and to convert the patriot and philanthropist into useless, moody, melancholy croakers. What inducement has a man to try to improve his garden, if he believes that, in spite of all his efforts, it will still

remain the same, or get continually worse? And so with regard to the great political and social garden of our country and the world. If a man believes that, *do what he may*, the character and condition of his country and his kind can never be improved, what encouragement has he to do *any* thing? But if a man believes that his efforts to promote the improvement and welfare of his country and his kind will be successful,—that though they may not accomplish all he could wish, they will still accomplish something; and that what the labours and sacrifices of one age do not accomplish, the labours and sacrifices of succeeding ages will,—he can labour with comfort and spirit. If then the doctrine *be* true, we ought to know it? If there be facts demonstrating its truth, we ought to be acquainted with them. Our conviction is that there *are* such facts, in infinite abundance; and our purpose is to point out a few of them in the present lecture.

And first, there is in man a natural tendency to progress. There are principles in human nature which render the progress of our race a matter of certainty.

1. There is, for instance, in man, a natural desire for knowledge,—for knowledge without bounds. This desire for knowledge increases in strength the more it is gratified. It grows with what it feeds on. This insatiable desire for knowledge impels men to all kinds of experiments, and these experiments lead continually to new discoveries, to perpetual progress, in every department of science.

2. Again; man's *power* to acquire knowledge, as well as his desire for knowledge, increases with his efforts to acquire it. The mind, like the body, is strengthened by exercise. The understanding, the judgment, the imagination and the memory, are all invigorated by use, are better fitted for penetrating the secrets of nature, and unravelling the mysteries of the universe.

3. Then every discovery prepares the way for further discoveries, and makes further discoveries more easy. It is with knowledge as it is with money: the man that has no money, finds it hard to get any, especially in times like these; while the man that has plenty, finds it easy to get more. So a man that knows nothing, finds it hard to learn anything; while the man that knows a great deal, finds it easy to learn a great deal more.

4. Again, knowledge, like light, is pleasant, while igno-

rance, like darkness, is disagreeable; and the pleasures of knowledge lure man onward in search of further knowledge, and render still more sure the progress of the race.

5. Then knowledge is infinitely useful. Knowledge is power. It gives man dominion over the universe. Knowledge is wealth. It not only discovers the treasures of the earth and the sea, but reveals to him the uses of things, and enables him to turn them to his advantage. It turns all nature into wealth. Knowledge is virtue. It reveals to man his duty, unfolds to him the results of obedience, weakens the power of temptations to transgression, and thus enables and disposes him to pursue a course of life in accordance with the requirements of virtue and honour. Knowledge is health. It reveals to man the laws of life, and enables him to avoid a thousand dangers into which his unenlightened neighbours fall. Knowledge tends to improve man's character and to better his condition in every respect. And the more clearly man sees this, the more eager will he become to make continual progress in knowledge.

6. Then there is in man a desire for consistency, for harmony in his views. When he discerns a great truth, he naturally tries to reconcile it with his previous views. If he cannot, he casts his old opinions aside. He cannot rest till his mind is at one with itself. Thus new truth expels old errors, and opens the way for the entrance of other truths.

7. Then all sciences are intimately related, and mutually dependent on each other, so that a man cannot properly understand one without a knowledge of others. A knowledge of History requires a knowledge of Geography, and a knowledge of Geography requires a knowledge of Meteorology and Astronomy. A knowledge of Medicine requires a knowledge of Physiology and Chemistry. Astronomy requires a knowledge of Mathematics and Geometry. Thus one study necessitates another, and the more a man learns the more it is necessary for him to learn. Hence when a man has once given himself to the pursuit of science, he is compelled evermore to advance; and the farther he advances, the farther he desires to advance.

8. Again, man is never long contented with his condition. However well he may be satisfied when he first experiences the pleasures and advantages of some great and happy

change, he soon begins to wish for something better or for something more. Clergymen may preach contentment as long and as hard as they please; men *cannot* be content, and they ought not if they could. Novelty, change, is essential to the enjoyment of life; and the desire for novelty, the eternal longing after something better, is another principle that tends to secure the progress of our race.

9. Then there is in man a principle of emulation. Life is a race, and no one likes to be last. Many are anxious to be first, and many others are anxious to keep pace with the first. Our neighbour builds a better house, and we must have one as good. His wife gets better furniture, and ours must do the same. And so it is in science. Herschel discovers a new planet, and a thousand astronomers scan the heavens eager to discover another. Kepler detects a new law of the planetary system, and all his cotemporaries try to make similar discoveries. And so in the arts, trade, and politics. There is always some one bent on being first, and there are always others unwilling to be second. It is the same with States. All vie with each other in population, wealth and power, and the more advanced States emulate each other in science, arts and freedom. And this principle of emulation necessitates still further the progress of our race.

10. Again, man has a strong desire to have his children, and his children's children, virtuous and happy. And the longer he lives, the more clearly he sees that he cannot secure the virtue and happiness of his own offspring, except so far as he can secure the virtue and happiness of the coming generations at large. He sees, he feels, if *one* man is to be happy, men generally must be happy; that if we neglect the virtue and happiness of others, we sacrifice our own. His wish, therefore, to secure the health, the virtue, the peace, the safety, and the happiness of his offspring, prompts him to labour for the improvement and welfare of the world at large.

11. And further, there is in man a principle of benevolence, of philanthropy, which impels him to seek the happiness of mankind at large on their own account, as well as out of regard to the welfare of his offspring. We are aware that this principle is weaker in some than in others, and that in many it is overpowered and neutralised by inferior propensities. Still, it is implanted in all, and in some it is the ruling passion, controlling their whole life. And those

nobler specimens of humanity are sufficiently numerous and sufficiently powerful to shape the future destiny of our race.

We observe further, that we *have* progressed in the past. We have progressed in science; we have progressed in arts; we have progressed in religion; we have progressed in Government; we have progressed in every thing conducive to the security and happiness of life.

1. We have progressed in science.

We have progressed in Astronomical science. The ancients knew scarcely anything with regard to the heavens. They had observed the stars, the few which could be seen by the naked eye, and had discovered that a few of them had an appearance and a motion different from the rest. They had also noticed the peculiar appearance and unusual movements of those mysterious bodies which occasionally came within sight, called comets. But beyond this, all that went under the name of Astronomy or Astrology was a mass of childish fancies. The majority of the ancients believed that the stars were living bodies, animated by living souls, and many of them worshipped them as gods. Comets they regarded as frightful omens, foreboding pestilence and war. An eclipse of the sun or moon inspired whole nations with the wildest terrors. The stars were supposed to have a mysterious and irresistible influence over a person's character and destiny, and a numerous order of men imposed upon the people, and enriched themselves, by pretending to derive from an observation of the stars a knowledge of future events. The ancient Hebrews believed that the sun and moon and stars were fixed in a solid frame-work, called the firmament, and that they were all at an equal distance from the earth. The apparent difference of size in the heavenly bodies they believed to be real. They considered the earth the principal part of the universe, and looked on all the hosts of heaven as created for the service of its inhabitants. They believed the earth was stationary, resting on pillars or foundations that could never be moved. In shape they supposed it to be a plain, and they speak of its length and breadth—and corners. The difference in the motions of the planets and the stars led at length to the belief in several concentric firmaments or spheres, moving within each other, at different rates of speed; but their new conjectures, instead of rendering their

theory of the heavens more intelligible, made it more incomprehensible.

What is the state of Astronomical science now? Where the ancients saw *one* star, we, by the aid of the telescope, see a hundred or a thousand. Where they saw nothing *more* than stars, we see countless suns and solar systems. The motions of the heavens, which to them were inexplicable, are now made intelligible to a child. Their four-cornered earth we have made into a sphere, and instead of keeping it immoveable we make it spin on its axis at the rate of a thousand miles an hour all day and all night long, and find time besides, with the moon for its companion, to take a yearly journey round the sun, at the rate of more than sixty thousand miles an hour. We have increased the number of the planets more than fivefold, and given to each its task and its sphere; while to some of the principal ones we have assigned a number of secondary planets as attendants. By the improvements in Mathematics and Geometry, and the invention of the telescope and its accompaniments, our modern Astronomers have measured the distances of the planets, ascertained the laws of their motions, defined their orbits, determined their size, their solid contents, and their comparative density, with a certainty and an exactness truly astonishing. They have made these discoveries familiar to vast multitudes, and placed them within the reach of mankind at large. The discovery of astronomical truth has exploded astronomical error. It has dissipated the mischievous delusions of astrology, and brought into general discredit the old black art of fortune-telling. It has taught us to look on the phenomena of the heavens without terror or anxiety. We no longer see a harbinger of death or desolation in the comet; or a sign of coming troubles in an eclipse. We welcome the lonely wanderers through immensity as harmless and interesting visitors, and court a further acquaintance with them. We look with as little fear on an eclipse of the sun or moon as on the shades of evening. We know their cause, we foretell their coming, and gaze on them with pleasure. It is in the darkness of ignorance and error that men are agitated and tortured with wild and unnatural terrors; the day-light of science shows us that the ghosts and goblins that startled us in the dark, are in truth our benefactors and our friends.

2. We have made progress in Geographical knowledge. The ancients knew almost as little of the earth as of the heavens. They had no idea of its extent, or of the number and variety of its inhabitants. To the ancient Jews, the land they lived in, and a few neighbouring countries, were "the whole world," and their inhabitants "all the nations of the earth." Even the Greeks and Romans were ignorant of much the greater part of the earth;—ignorant, not only of its various climates, productions, and inhabitants, but of its very existence. Of the two great continents of North and South America, of the continent of Australia, of numerous and vast inhabited regions in Asia and Africa, and even of many and extensive regions in Europe, as well as of a thousand Islands scattered in the Seas, they knew just nothing. Alexander was said to have conquered the world, yet neither he nor his Generals ever *saw*, much less conquered, one-tenth of it. The Romans fancied themselves the *rulers* of the world, while hundreds of nations roamed the forests or inhabited the cities of as many lands, wholly unconscious of the existence of the proud conquerors. The Romans did not know much even of some of the countries over which their empire extended. "It is amusing," says Macaulay, "to read the accounts which Procopius, an able historian of the reign of Justinian, gives of Britain, some hundreds of years after its conquest by the Romans. There is one province of the Island (says this historian) where the ground is covered with serpents, and the air is such that no man can inhale it and live. To this desolate region the spirits of the departed are ferried over from the land of the Franks at midnight. A strange race of fishermen perform the ghastly office; the speech of the dead is distinctly heard by the boatmen: their forms are invisible to mortal eye; but their weight makes the keel sink deep in the water." The Romans had as foolish and ridiculous notions, and gave credit to as monstrous fables, with regard to other foreign countries. They believed in races of men of prodigious size and monstrous shapes. They spoke of harpies, griffins, gorgons, hydras, sirens, nymphs, satyrs, and other monstrous creations of a disordered imagination, as real beings. And this mad mass of misconceptions, with some few particles of science intermingled, was the Geography of the ancients.

What is the Geography of the moderns? Within the last century our voyagers have repeatedly made the circuit

of the globe, exploring every Sea, and almost every Bay. Our travellers have made their way over every Continent, and explored almost every Island, climbing mountains, crossing deserts, penetrating forests, exploring volcanoes, tracing the courses of rivers, noting peculiarities of climate, acquainting themselves with the birds and beasts, the insects and reptiles, the shrubs and trees, the fruits and flowers, and with the leading characteristics of all the races of men, by which the earth is peopled. The errors of earlier explorers have been corrected by the researches of later ones, and discovery has followed discovery, until we are at length in possession of information so vast in its extent, and so reliable in its character, that compared with it, the Geography of our ancestors look poor and pitiful indeed. There is hardly a mountain of any note of which we have not measured the height, hardly a sea of any extent of which we have not sounded the depth, hardly a river of any importance of which we have not traced the length. The soil and climate, the vegetables and animals, the geological formation and mineral treasures, the human inhabitants and the religions, customs, laws and literature of every country, are rapidly coming to light. Regions the most difficult of access, presenting to the traveller dangers the most appalling, have been explored. And the march of exploration still goes on. Name a place over which doubt or darkness still hangs, and England will furnish her Franklin, and America her Kane, who, at the risk of life, and of interests dearer than life, will start for the mysterious spot, and either wrench from darkness her secret, or nobly perish in the attempt.

3. While common Geography present us with a description of the earth's surface, giving us in detail an account of its islands and continents, its mountains and valleys, its rivers and seas, its animals and vegetables, there is another science, *Physical Geography*, which, while it takes note of all these details, and explains their relations to each other, treats of numerous other terrestrial phenomena, and unfolds the general philosophy of our globe. "It treats of the distribution of magnetism in our planet, with relation to its intensity and direction. It depicts in broad outlines the even or irregular configuration of continents, the relations of superficial area, and the distribution of continental masses in the two hemispheres, and the influence of this distribu-

tion on climate, and on the meteorological modifications of the atmosphere. It defines the character of mountain chains, determines the mean height of continents above the level of the sea, the position of the centre of gravity of their volume, and the relations of the highest summits of mountain chains to the mean elevation of their crests, or to their proximity to the sea shore. It considers volcanoes and their action; describes the strife of water with the land; indicates the features possessed in common by all the great rivers in the upper and lower portion of their course, and in their mode of bifurcation when their basins are enclosed. It speaks of currents in the air and ocean, and their influence on climate; explains the difference of climate in islands and continents, in continents of different shapes, in different parts of the same continent, and in islands of different sizes and positions. It designates the latitude or geographical position of the zones, or districts, in whose plains each organic form attains its highest development; shows us organic beings as they are distributed in groups throughout the globe, according to their different relations of latitude, and elevation above the level of the sea, and to climate.”* In short, it is the philosophy of all terrestrial phenomena. This science has grown to large dimensions, and is every day expanding. For its interesting and useful revelations we are entirely indebted to the researches of modern philosophers. The ancients hardly dreamed of such a science.

We have made progress in the important sciences which treat of the structure and functions of the human body, of the relations in which the human system stands to external nature, and of the laws of life, and health, and happiness. These subjects appear to have engaged the attention of the ancients from very early times, and we have the results of their investigations in the writings of Hippocrates, Aristotle, and Galen. The amount of truth, however, to be found in those writings is very small, and is mixed with an immense amount of error. The ancients had not an opportunity of studying the human system to advantage. It is impossible to gain a knowledge of Anatomy and Physiology without dissection, and to the ancients this was forbidden. Among the Jews it was unlawful to touch the dead body of a human being. The early Christians considered the dissection of human bodies for the purpose of gaining a knowledge of the human

* Humbolt.

system, as offensive both to God and man. Tertullian and Augustine, two of the leading Fathers of the Church, denounce those physicians who dissect human bodies for the purpose of acquiring physiological and medical knowledge, as human butchers and man-haters, and threaten them with excommunication and damnation. Even the more philosophical Greeks and Romans were infected with this mischievous superstition. The ancient Romans held it unlawful to look on the viscera of a dead body, or even to touch the dead. The order of men who were employed by them to dispose of the dead, were compelled to live outside of the city. The Greeks appear to have been somewhat more rational, but even they had a tremendous prejudice against dissection. "When Hippocrates visited Democritus, and found him surrounded with the remains of various beasts which he was dissecting, Democritus felt it necessary to apologise for taking so great a liberty, even with the bodies of animals. 'These animals,' says he, 'which thou seest, I dissect, not from any disregard of God, their maker, but from a desire to find out the nature of the gall and bile.' If he was so much afraid of censure for dissecting the bodies of beasts how much greater must his fear of blame have been if he had been found dissecting the bodies of men."* Hence neither Hippocrates, the most celebrated physician among the Greeks, nor Galen, the most renowned physician among the Romans, appears ever to have ventured on this unpopular practice. They dissected sheep and dogs, and, to come as near to man as they durst, they are said, at times, to have dissected apes; but superstition, or a dread of popular fury, would allow them to go no further. They remained ignorant, in consequence, of some of the most simple facts in human physiology. The very wisest of them did not know the number of bones in the human skeleton. How little then must they have known of the veins and arteries, the muscles and nerves, and of the structure and functions of the great vital organs?

The ideas of the ancients with regard to the causes of disease were generally fanciful. Some diseases they attributed to the Gods, and some to demons; some to the influence of the moon, and others to the influence of the stars. "Hippocrates," says Dr. Lardner, "had so strong a faith in the influence of celestial bodies on animated beings,

* Hakewell.

that he expressly recommends that no physician should be trusted who is ignorant of astronomy. Galen agreed with Hippocrates, especially with regard to the influence of the moon." Madness was attributed to lunar influences exclusively, hence a madman was called a *lunatic*, the Latin word for moon-struck. Some diseases were charged on witchcraft, and others on priestly maledictions. As usual when the intellect is undeveloped, men *imagined* causes of natural phenomena, and generally imagined anything rather than the right ones. In early times, men had neither the mental habits, nor the freedom from prejudice, nor the opportunities and means, necessary to enable them to discover the true causes of natural phenomena; so that if in the writings of the ancients we meet with but little science, and an immense amount of error and absurdity, it is exactly what we had reason to expect.

Men have now outgrown to a great extent the prejudices and weaknesses of their ancestors, and acquired the habits necessary for scientific investigation. They practise dissection without misgiving, and make experiments without fear. They shrink from nothing that promises an increase of physiological knowledge, provided it involves no crime or cruelty. Their discoveries are in consequence innumerable. They have not only numbered with accuracy the bones of the human skeleton, but analysed every fibre of the muscles, traced every ramification of the veins and arteries, and almost every filament of the nervous system. They have examined the structure and ascertained the functions of almost every organ, whether of life, or sense, or motion. While some have studied the eye, others have studied the ear. While one has given his life to the investigation of the lungs, another has spent his days in the examination of the heart, the skin, the stomach or the brain. Thousands of men of the highest intellectual powers, have for ages past made the enlargement and the diffusion of physiological science the great object and business of their lives. The success which has crowned their efforts is as vast as it is cheering. After having gained an acquaintance with the heavens and the earth, we have gained, at length, through their assistance, a better acquaintance with ourselves. We know of what we are made, and by what we must be sustained. We know to what sources we must look for health, and from what quarters we may expect disease. We understand the rela-

tions of our physical system to food and drink, to air and exercise, to muscular and mental toil, to light and liberty, to pain and pleasure, to society and solitude, to varieties of season and climate, to the anxieties of gambling and rash speculation, and to the peaceful pursuits of honest industry. We know something of the influence of the body over the mind, and of the mind over the body. Ten thousand things we know of the human system and its relations, of which the wise men of antiquity never dreamed. And our knowledge of ourselves is constantly increasing. Almost every day reveals to us some new wonder, and feasts the mind with some new pleasure. And the benefits of this enlargement of physiological science are beginning to show themselves among all classes. Men and women are getting rid of their superstitious notions about lunar and planetary influences; about the power of witches, priests and demons; as well as of their extravagant expectations from doctors, drugs, and drams. They are learning that life and health and enjoyment are more in their own power,—that they are governed by natural and unchanging laws, and that they are to be secured by obedience to these laws, and by obedience to these laws alone. And many are reducing this knowledge to practice. Hence deadly excesses of various kinds are giving place to habits of temperance and sobriety. Cleanliness is making war on filth. Farmers are draining their swamps. Sensible Town Councils are suppressing nuisances. Builders are making their houses larger, and allowing the inhabitants room to breathe. The term of human life is gradually lengthening. Some of the deadliest forms of disease are disappearing. Knowledge is proving itself to be health and enjoyment, as well as power; and under its guidance men are marching, slowly it is true, and often irregularly, but still marching, to freedom, to virtue and to happiness.

There is another science, Geology, which treats of the natural history of the earth, and seeks, by an examination of its crust, to determine questions with regard to its age and origin, and the changes through which it has passed. It would not be correct to say that in ancient times this science had no existence, for there were men two thousand years ago who had made observations and collected important facts with regard to the natural history of the earth, which really deserved the name of science. The science was how-

ever in its feeblest infancy. The rapid and extensive spread of a new superstition peculiarly hostile to scientific pursuits, stifled the new-born science for many centuries. Of late it has escaped from the hands of its enemy, and been nurtured and cherished by its friends, and it has grown and expanded in the most wonderful and delightful manner.

The ideas of the ancients with regard to the age, the origin, and the natural history of the earth were various, and often very ridiculous. Some believed it was made out of nothing, about six thousand years ago: others believed it to have existed from eternity, in much the same condition as that in which we see it at present. Some thought it had been made out of water, some from atoms, and some that it had been hatched from a huge egg. All these theories Geology has exploded. It has proved that the world has existed for countless millions of ages,—that its first inhabitants were of quite different orders from its present inhabitants,—that it has been repeatedly peopled by new orders of beings, each coming gradually and slowly into existence, each occupying the earth for an indefinite but inconceivably protracted period, and each passing slowly away, making room for others. Geology has exploded the fables of a Golden Age, when the inferior animals were supposed to live together in peace, and death to have no existence in the earth. It has also revealed to us many facts with regard to the inexhaustible mineral treasures with which the crust of the earth is fraught, the order in which the various minerals are found, the laws of subterranean currents, and a number of other important truths tending to promote the happiness of mankind.

The sciences in which the ancients made the greatest proficiency were Mathematics and Geometry; yet Euclid and Archimedes were but children compared with many of the Mathematicians and Geometricians of the present age.

Another science in which the ancients made considerable proficiency was that of Mechanics; yet the difference between the state of Mechanical science among the ancients, and the state of that science at the present day, is almost infinite; and the number of useful mechanical inventions at present employed in the service of man, compared with the number employed by the ancients, is as a thousand to one.

Some of the ancients devoted much attention to Natural History, or to the study of plants and animals; and considering the disadvantages under which they laboured, they made considerable proficiency in this interesting science. But where they were acquainted with one plant or animal, we are acquainted with a hundred. This is not all. In Natural History, as well as in other departments of science, the ancients were constantly mixing fables with facts, and crowding their catalogues of plants and animals with specimens which had no existence. Our modern students in Natural History have not only discovered a world of interesting and useful facts unknown to the ancients, but have exploded a multitude of repulsive and mischievous fictions, by which the credulous and superstitious minds of the ancients were abused.

The truth is, the ancients did not so much *investigate* as *imagine*; they did not so much examine as believe. They were too much like children; and childishness is the leading characteristic, the appropriate designation, of a great proportion of all they have left us, whether on subjects of natural history or natural philosophy.

Nearly all that we know of Meteorology, Electricity, Magnetism, Hydrostatics, Pneumatics, Optics, and the laws of sound, is the result of investigations made by men of the last two centuries.

And so with regard to chemistry. Nearly all that we know of the nature and properties of natural bodies,—of their action on each other,—of their constituent elements,—of the effects of their decomposition and recombination, and of the laws of material substances generally, we owe to the labours of the moderns. The ancients supposed there were but four elementary bodies, earth, air, fire and water. The moderns have already discovered from fifty to sixty. They have also discovered that what the ancients regarded as elementary bodies are not such. Water they have found to be a compound of oxygen and hydrogen, air a compound of oxygen and nitrogen, earth a compound of various elements, and fire no element at all, but the result of chemical action in various kinds of bodies. Alchemy, to which the ancients gave so much attention, and which bore much the same relation to Chemistry that Astrology did to Astronomy, the moderns have exploded. Its boastful pretensions with regard to the discovery of a universal solvent, or philoso-

pher's stone, which was to enable them to convert the baser metals into gold and silver, and the *Elixir vitæ*, which was to enable them to cure and prevent all disease, and secure to man immortality on earth, are all regarded now as the foolish talk of children. Though Chemistry has not done all that Alchemy pretended to do, it has conferred innumerable benefits on mankind. It has aided every other science, promoted the improvement of every useful and ornamental art, and contributed in various ways to the health, the power, the refinement, and the comfort of mankind.

Philology, or the science which explains the origin of languages, their history, the changes they have undergone, their relations to each other, and their bearing on the origin and history of nations, their religions, customs and laws, is also of modern origin. Ethnology, or the science which relates to the various races of men, their likenesses and differences, their origins and histories, and their settlement in various parts of the earth, is the same. And so with almost every other science. Nine-tenths, or ninety-nine hundredths, of all that we know, whether of ourselves or of nature generally, is the result of modern investigation. The marks, the signs, of progress are on all.

II. Again; we have made progress in matters of government. The *earliest* governments of which we read were despotic. The king was absolute; his word was law. He disposed of the property and lives of his subjects at pleasure. His person was sacred, for he was God's anointed; and to speak evil of him, or to resist his power, was death, and damnation too.

The government of the family too, in early times, was despotic. The power of the husband over his wife, and of the father over his child, was unlimited. The wife and child were both property. The father sold his daughter, and the husband bought his wife. If a man did not like his wife, the law permitted him to turn her away, or suggested a method by which, under the form of a trial, he might remove her out of existence. If a man wished for more wives than one, and was able to purchase or steal them, he was at liberty to have any number up to a hundred or a thousand. The woman had no choice with regard to her husband; she was wholly at the disposal of her Father. Yet she was required to obey her husband in all things, and to leave to

him the disposal both of herself and her children. It was only in peculiar cases that she was allowed to hold property, and she was denied the pleasures and advantages of a rational education.

So with regard to the father and the child. The father could either sell his children into slavery, or put them to death. Some legal restrictions were at length laid on the power of the father, but they were neither adapted nor perhaps intended really to deprive him of his fearful power.

How do we stand now with regard to those matters? All is changed. The doctrine of the divine right of kings is exploded, and rulers are regarded as but men. If they raise their heads too high, the people cut them off. If they refuse to rule according to law, the people banish them. Sooner than allow their rulers to treat them with insolence, civilised nations would send their rulers to heaven, or somewhere else. They may allow their rulers to retain the old titles of king or emperor, but not the power or privileges which those names implied in earlier times. Some of the nations in Europe, though monarchies in name, are more than one half republican in reality. The tendency of all is to representative and constitutional government, and in some that blessing is already realised.

Domestic government also is changed for the better. The power of the father to torture or destroy his son has been long since taken away in civilised nations. Sons have now rights as well as fathers, and both the laws and public sentiment guard those rights. Even *Daughters* have rights. They are not yet placed on a level with their brothers, but the father can no longer force his daughter to marry the man she hates, nor can he keep her from marrying the man she loves. The unreasonable creatures try sometimes, but they generally get thwarted.

Nor can the husband do exactly as he likes with his wife, unless, like a husband of the model kind, he never chooses to do anything but what is exactly right. He cannot have her, in the first place, without her consent; and when he has got her, he cannot turn her adrift without just cause, duly proved in open Court. He cannot take more than one with impunity, unless he go a long way West and cross the Rocky Mountains; and even then he might not be allowed to have everything his own way. If the wife be grievously ill-treated, the laws grant the right of

divorce. They even acknowledge her right to property, and provide for her education to some extent. And the spirit of the age is becoming daily more and more in her favour.

We have made progress in religion. The most civilised nations of antiquity regarded as sacred opinions the most absurd and blasphemous; and they practised as religious duties deeds the most cruel and revolting. The beings or phantoms that they worshipped as Gods were frequently remarkable for nothing so much as vice and cruelty. And what they believed their Gods were accustomed to do, they naturally enough supposed it lawful for themselves to do. Bacchus was a drunkard, Mercury a thief, Mars a murderer, and Jove a brute; and why should not *they* have license to be the same?

Most of the religions of antiquity required human sacrifices. A father was required to sacrifice his son, or to offer his daughter as a burnt-offering. Laws are regarded as divine which sanctioned the grossest crimes; and if we may believe the histories which the ancient Jews have transmitted to us respecting their fathers, polygamy, incest, concubinage, and even more revolting vices, were practised by their best and wisest men.

We grant that many of the religions of the present day are foolish and demoralising enough, but they are no longer the religions of the most advanced of our race. They are the religions of the unthinking and unreasoning only. The better portions of mankind have outgrown them.

III. We have progressed in the arts. We will say nothing of the fine arts, though we think it might be easily shown that at no former period were the arts of sculpture and painting carried to such perfection as in modern times. It is past dispute that there is no comparison between the *oldest* specimens of painting and sculpture, and the productions of latter times. The specimens of ancient Egyptian and Assyrian art resemble the specimens which we see on the Buffalo robes of the Omaha and Pawnee Indians. As to music, the improvements which have taken place in it are incalculable. What it was in earlier ages, among the Egyptians, the Jews, the Earlier Greeks and Romans, as well as among our early German and Celtic ancestors, one may judge from what it is now among the American

Indians. What it is now, whether one regards the science or the art—the endless variety and diversified powers of musical instruments, or the wonderful perfection to which that most charming of all musical organs has been carried, the voice of man and woman, would take a musical philosopher to describe. Perhaps the best way to impress ourselves with the immeasurable progress which we have made in music, would be to spend a morning in listening to a Pawnee drum and its vocal accompaniment, and the evening in attending a joint concert got up by such artists as Jullien, Ole Bull, and Jenny Lind.

But it is of what are called the *useful* arts, including the common arts of life, that we would particularly speak. Here our progress has been not only vast and rapid, but of a nature that all can understand and appreciate.

Take first the art of travelling. Our first progenitors trudged on foot, through uncleared thickets, and undrained swamps, and over unbridged streams; and the man of swiftest foot was the courier or messenger of his tribe. Their posterity tamed the ass, the camel and the horse, thus doubling their speed, and leaving the swift-footed runner panting wearily behind. On rivers, lakes, and narrow seas they came, in course of ages, to paddle the primitive canoe. Another long succession of ages passed, and man invented sails, and pressed the winds into his service. On land he rumbled along in his rude wagon, drawn by the slow-footed ox. A few centuries pass, and he invents the chariot, and harnesses the horse, and drives along, where the roads will permit, at the rate of four or five miles an hour. Then came, in slow succession, the old stage coach with wooden springs; the improved stage coach with leathern springs; the patent flying coach with metal springs; the mail, with relays of horses, change of drivers, and stated times of departure and arrival, and better roads, and bridges over streams, and a man could travel fifty, sixty, or a hundred miles a day. He next improves his ships, and crosses the widest oceans, making five or six knots an hour. And thus things stood when we were young. How stand they now? Our roads are iron, our horses are iron; and we travel at our ease, on cushioned seats, with book or newspaper in hand, at the rate of forty, fifty, or sixty miles an hour. Forty years ago it took three weeks sometimes to pass from Liverpool to Dublin. Now we perform the voyage in six or

eight hours. We have mastered the winds and the waves. We travel up the streams of the Mersey and the Thames faster than our fathers could travel down them. We transport our merchandise as rapidly as ourselves. The plodding pack-horse, and the heavy lumbering wagon, and the snail-paced canal boat, have transferred their charge to the steam-boat and the lightning train, and disappeared. Fifty years ago, the man who undertook to travel from York to London made his will before starting, and took a long and sad farewell of all he left behind. Men now take such journeys daily, and after doing their business, come home to breakfast the next morning.

As another instance, take the art of writing. Our earlier ancestors, if they wrote at all, wrote slowly on lead or on the rock, with pens of iron. Their words were pictures. Letters they had none. Letters came however at length, and men wrote more rapidly, on wax, on bark, on parchment, and on leaves of plants. At length paper was invented, and writing became easier and more rapid still, and books could then be had by the very rich. But we stop not here. Man's course is ever onward. He invents the printing press, and writes ten thousand words at once with one strong pull of his arm. The printer is suspected of dealing with the devil he produces books so fast, as if any devil with common sense would ever help a respectable printer. Books now are multiplied by thousands. Presses work everywhere. But the demand for books increases, and it must be met. The power that had been made to drag the railway cars and impel the steamships, is set to work the printing press. A man now can print in a day what twenty men could not have written in a life-time in the days of our fathers.

Take as another example the art of correspondence. Our forefathers sent *messengers*; we send messages. They walked; we fly. They gave signals from mountain to mountain by night fires; we talk to each other over islands and continents, and across seas and oceans, by lightning. The lightning has been taught to speak and write, and messages from New York to New Orleans, and from Europe to America, which it would once have taken the courier or the ship six weeks or six months to carry, the tamed lightning transmits in the twinkling of an eye.

We have made progress in agriculture, both as a science

and an art. We know more of soils and manures, of the relations of vegetation to the air, of the capabilities and laws of improvement in stock and fruit and grain, and of every thing concerning agriculture than our fathers knew. And we have better methods of doing our work. We have better implements. Our fathers reaped with the sickle, at the rate of half or quarter an acre a day. We reap with horses and machinery, at the rate of an acre or two an hour. They trod out their grain with oxen, or beat it out with the flail; we thrash with machinery, a bushel a minute. They sowed with the hand, we with the ten-mouthed drill.

We have progressed in manufactures.

Take the art of spinning for instance. Our grandmothers used to spin a thread at a time, and thought a pound of yarn a good day's work. We spin by steam, two thousand threads at a time, and a hundred men can spin yarn enough for a nation.

In the days of our fathers the weaver threw his shuttle with the hand; now it is thrown by steam. Steam does almost every thing. It thrashes grain and grinds flour. It bores mountains, digs wells, and quarries stone. It saws lumber, works forges, makes shoes, knits socks, rocks cradles, and prints books.

The beneficial results of this progress in science and art, in Government and religion, are innumerable.

We have fewer famines than our ancestors, and those which we have are less severe. We produce more food. We are more provident, and keep more on hand; thus making the surplus production of one year supply the deficiency of another. Nations have more commercial intercourse with each other, so that the abundance of one country is more easily obtained to supply the wants of others. Nothing like the famines of antiquity now afflicts the country, and no one fears a calamity, which, in other lands, and in less favoured times, used often to embitter with its pangs and terrors the lives of our ancestors.

We have fewer wars than our forefathers, and those we have are less destructive. We have fewer kings, and those which remain cannot so easily engage their subjects in war as formerly. As men get wiser, war comes to be a game that kings cannot so easily play at as formerly.

There are fewer great conflagrations than formerly. Cities are better built, and in most countries there are better

means of extinguishing fires, or checking their ravages. We have fewer visitations of the plague, and those we have are much less severe.

We are less troubled with superstition than formerly. Many horrible superstitions which used to torment the souls of our ancestors have disappeared, and those which remain are confined chiefly to the uneducated portions of society. We have no more any trials or executions for witchcraft. Less than two hundred years ago the people of England were hanging and burning their neighbours wholesale on charges of witchcraft, and the whole country was tortured with the most horrible and maddening fears. There was scarcely a family that felt itself secure. Those who were not afraid of being plagued or destroyed by the devil and the witches, were in danger of being executed by the authorities on charges of witchcraft, and all the more in danger for not believing in the thing. Things were as bad in other countries. In many cities of Germany six hundred persons were burnt, or hung, or otherwise executed, annually, on charges of witchcraft. In the town of Geneva five hundred persons were burned alive in two years. Cumanus burned forty-one poor women in one province of Italy, and Sprenger, in Germany, burned a number which cannot be ascertained. The more they burned, the more they found to burn; until it became a common prayer with women in the humbler walks of life, that they might never live to grow old. It was sufficient to be old and poor, to insure death at the stake or on the scaffold.

The old were not, however, the only victims to this horrible delusion. Young girls, and men and women in the prime of life were frequently sacrificed. Whole families, fathers, mothers, and children, were burnt together. The panic became so severe at times, that there were not judges enough to try the cases, nor dungeons sufficient to hold the prisoners.

Besides vast numbers who were publicly executed, many women lost their lives, in every part of the country, without being brought to trial at all, from the injuries received at the hands of the people. Life became so intolerable to many, who were never brought before a court, that they actually confessed themselves guilty of witchcraft, for the purpose of getting themselves put out of their misery. Sir George Mackenzie, Lord Advocate of Scotland, himself a

believer in witchcraft, mentions several such cases. He says, "I went to examine some women who had confessed, and one of them told me, under secrecy, that she had not confessed because she was guilty, but being a poor creature who worked for her meat, she saw, that having been defamed for a witch, she should starve, for no person after that would give her meat and lodging, and that all men would beat her and set dogs at her; and that therefore she desired to be out of the world; and with that she wept most bitterly."

One way of ascertaining whether people were witches or not, was to throw them into deep waters. If they sank, it was taken as a proof that they were not witches; but then the poor creatures were drowned. If they did *not* sink, it was considered proof conclusive that they *were* witches, and they were accordingly destroyed. Guilty or not guilty the result was death.

People were charged with witchcraft on the most monstrous grounds, and convicted on the most ridiculous testimony. The testimony against some was that they had made their neighbours' cattle barren, or their milch cows dry; against others that they afflicted their neighbours' children with mysterious pains, or incurable diseases. If persons were ready to swear that such a person was afflicted, or such a man's cattle ill, and that the unfortunate person at the bar was a witch, and supposed to be the cause of the calamity, it was enough. Two poor old women at Constance were put to the torture, and then convicted and burned, on a charge of having raised a tempest. For a period of thirty-nine years the average number of persons who were executed on such charges in Scotland alone was two hundred annually, or upwards of seven thousand altogether. As late as 1664, Sir Matthew Hale, so renowned for his incorruptibility and piety, condemned two women to the stake as witches; and the last execution on a charge of witchcraft took place in England as late as the year 1716. At that time a woman and her daughter, the daughter only nine years of age, were hanged on a charge of selling their souls to the Devil, and raising a tempest by pulling off their stockings and making a lather of soap. Now that Science has dissipated these horrible delusions, we look back on the frightful and monstrous tragedies enacted by our forefathers, with astonishment, horror, and pity.*

* Mackay's Popular Delusions.

Our ancestors were great believers in fairies, and mothers sometimes imagined that their children had been carried off by the mischievous elves, and others left in their place. But how seldom we hear of changelings now.

Fifty years ago there was not a town or village without its haunted houses, where ghosts of murdered men and women made dreadful noises, frightening almost to death or madness those who were rash or unfortunate enough to pass a night in them. This plague also has gradually diminished as natural science has made its way among the people. Neither witches, ghosts, nor devils, seem to like the light of science.

We have fewer revolting kinds of punishment than formerly. Burning men at the stake, breaking them on the wheel, rending them in pieces by horses, hanging or nailing them on crosses, and even the lesser cruelties of maiming and branding, are almost wholly unknown in the present day, except in slave states, and even hanging and branding are less common than they used to be. In the reign of Henry the Eighth, renowned for the murder of so many wives, and for his quarrels with the popedom, more than seventy thousand persons were hung, many of them on the charge of vagrancy alone. In the present age the reign of an English monarch will hardly be dishonoured with a hundredth part that number of executions, though the population of the country is four or five times greater.

We have less religious cruelty than formerly. Persecution for differences of opinion on religious subjects used to be more common than hanging for vagrancy, or burning for witchcraft. The Jews stoned or stabbed each other, the Gentiles crucified and burnt the Jews; and both Jews and Gentiles occupied themselves occasionally in destroying the Christians. As soon as the Christians got the power, they began to burn the Gentiles and each other. Arians burnt Athanasians, and Athanasians burnt Arians; Catholics burnt Protestants, and Protestants burnt Catholics. Then Protestants fell on each other, and Churchmen murdered Independents and Presbyterians, and Presbyterians and Congregationalists murdered Baptists and Quakers. Trinitarians murdered Unitarians, and all the orthodox sects joined together to save the souls, by tormenting and destroying the bodies, of such as had the happiness or the misfortune to agree with none of them. The numbers who have been

crucified, burnt, torn in pieces, thrown to wild beasts, broken on the rack, hung, beheaded, or slain with the sword, or driven out of the world by torture and starvation, for religion's sake, exceeds all calculation. This horrible system of butchery for the support and promotion of piety, is now generally abandoned. It is true persecution has not ceased, but it has assumed a milder form. Instead of destroying men's bodies, orthodoxy now is obliged to content itself with destroying their reputation. Instead of fining heretics, it only tries to keep them so poor that they shall have nothing with which to pay a fine. Instead of banishing people, it only tries to make the place where they live so hot that they shall be glad to banish themselves. Instead of sending them to the scaffold or the stake, they mercifully hand them over to the dark gentleman with so many vulgar names, to be conveyed to the warmest apartments in his magnificent and gorgeously illuminated palace. These, of course, are trifles compared with the portion which misguided zeal and perverted charity would once have dealt out to such as happened to be wiser or better than their neighbours.

Even religion itself is laying aside many of its more obnoxious and revolting doctrines and practices. It was once a common thing to preach of infant damnation, and to refuse to children dying before Baptism the right of decent burial. It was the custom, not thirty years ago, to preach the horrid doctrines of eternal, unconditional election and reprobation, the most revolting notions respecting the divine sovereignty or almighty partiality and caprice, impossible theories of the trinity, atonement, original sin, total depravity, supernatural conversions, salvation by faith alone, a literal day of Judgment, and all the horrors of a fire and brimstone hell, and eternal and infinite torments, for the greater portion of mankind. It was also the custom to give such interpretations of the Bible as made its teachings clash with the revelations of science. Tales of dreadful judgments inflicted on men of unapproved opinions, and of miraculous interpositions in behalf of believers of the right stamp, used to abound in religious periodicals. All such things are gradually becoming less common. Religious denominations are also becoming more tolerant and charitable towards each other, and some of them are beginning to show less bitterness even towards such as differ from all religious sects.

If time would permit it would be easy to show that drunkenness and gambling, frequent as they are, are neither so common nor so fashionable as they once were. Formerly intemperance ruled, and the man who would not get drunk occasionally, was banished from *respectable* society. *Now*, *temperance* is getting the upperhand, and many, instead of boasting of drunkenness, will hardly acknowledge the charge when preferred against them, but contend that they were only elevated or *disguised*.

There is less political corruption than formerly. Not a hundred years ago, offices and honours, and titles and power, and justice,—nay, not justice, but verdicts, in criminal as well as in political and civil suits, were regularly sold in the most powerful nations of Europe. Now, corruption is not only less frequent, but less outrageous,

There is immensely less serfdom and slavery in the world than formerly. At one time serfdom and slavery were all but universal. Now they are confined to a few countries, and in some of these they are gradually dying out. Where they prevail, they are accompanied with less cruelty than formerly. In no country now would men be permitted, even if they were so disposed, to treat their serfs or slaves as the Ancient Greeks and Romans frequently treated theirs, or even as the Egyptians and the Jews are represented as treating their bondmen and bondwomen. The heart of our common humanity is too tender to tolerate such enormities.

There is immensely less ignorance in the world than formerly, as well as less cruelty. Not fifteen hundred years ago there were powerful nations,—many powerful nations, who gloried in their ignorance, and made exterminating war on books and learning. Not a thousand years ago there were mighty nations who were thus proud and boastful of their ignorance and barbarism. Nay, not yet three hundred years ago, historians assure us, that even in England, men of large estates, and filling offices of trust in their own countries, were not only brutally ignorant, but congratulated themselves on their ignorance. About the same time it was the boast of a governor of Virginia, that there were neither common schools nor newspapers in that colony. Science was held in contempt, or regarded with suspicion and dread, by the Puritans, on both sides of the Atlantic. A few ages earlier it was difficult to find a man in a whole

county that could even read, except here and there a priest. Even long after the establishment of Protestantism, there were numbers of clergymen who could not even read their prayer books. Now education is becoming general in all countries of Europe, and in some it is all but universal.

IV. We are far in advance of the ancients in regard to literature. Our literature,—I mean our best literature,—is more truthful. Of course what the ancients did not know, they could not teach; while the errors which were mingled with their better thoughts, often formed the principal part of their writings. Our literature is more abundant too than that of the ancients. On every subject of importance we have a hundred good works, where they had one. It is more various also. It treats of a thousand subjects of which they had no conception. It is, besides, more progressive, more reformatory. And it is more chaste, more pure. The principal poets of antiquity have faults that would not be tolerated in a poet of the present day.

We have better works in every department of literature than the ancients had. We have better histories and better biographies. We have better poetry and better fictions.—We have better works on logic and rhetoric. We have better treatises on science, on morals, on religion, on government, and on law. We have better songs and better dramas. Antiquity has nothing to compare with Charles Mackay, or William Shakespeare. Literature is more diffused too than formerly. It is cultivated by a far greater number of nations, and by far greater numbers in each nation; and an infinitely greater number of men and women enjoy the pleasures and advantages of literature. Books are much more numerous than formerly, and much cheaper; and greater numbers of persons have means to buy, and time to read good books.

I grant that in some respects the books of some of the ancients can hardly be excelled. There is something in Homer and Virgil, in Horace and Ovid, exquisitely beautiful, and indescribably charming; and there is something in the speeches of Cicero and Demosthenes irresistibly powerful. And in Aristotle, and Plato, and Cicero, and Seneca, there is a vast amount both of good sense and beautiful writing. And Herodotus and Xenophon, and Plutarch and Livy, have left us a number of exquisitely finished compositions, call them history or fiction, which you will. It

would be false and unjust to deny that the ancients have great excellencies, and some excellencies peculiar to themselves. But for truthfulness, and variety, and power to elevate and bless mankind, the literature of the ancients is far,—very far behind the better kind of literature of the present day.

And the farther we go back, the fewer and the poorer the books become. Everything becomes poorer. Governments, laws, religions, arts,—all dwindle.

If we go back still farther, we reach a period when men had no books at all, not even of the poorest kind,—when they had no written language,—no letters,—when sounds had no signs,—when the thoughts and feelings, the words and deeds of men had no record, no memorial, save in the mind, and but seldom there. A period when men had no science, no arts, no monuments,—no Governments, no institutions, no laws,—when they had no homes, no flocks, no fields,—no cultivated grain, or fruits,—when they roamed the forest in savage freedom, gathering acorns, nuts, and roots, or ensnaring birds and beasts for food, and, dying, left no trace of their existence behind.

We go back still farther and there is no man, not even a hunter or a savage. The earth is in possession of the birds and beasts, insects and reptiles; they are its only inhabitants. The sheep has no shepherd, the horse no rider, the dog no master. Among a thousand sounds with which the hills and forests ring, there is no voice of man; no shout of joy, no song of love, no sound of merry children. The earth, so far as humanity is concerned, is one great solitude. Birds sing, but no ear listens to their songs; flowers bloom, but no eye gazes on their beauties.

*"Then every flower was born to blush unseen,
And waste its sweetness on the desert air."*

We go still farther back and there are none of our present races of animals. The birds and the beasts with which we are now familiar, all disappear. Instead of the horse, the dog, the sheep,—the dove, the eagle and the lark, huge and unsightly beasts and birds of other races crowd the earth.

We go still farther back and even these disappear, and there is not a living thing on all the earth. Silence and stillness reign through all her realms; the silence of death, the stillness of the grave. The forests are untrod; the

plains untenanted. The hills and the valleys are all desolate. Not an insect buzzes in the air; not a reptile crawls upon the ground. There is no life, no voice, no sound of living thing on all the earth. Trees bud and spread their leaves, flowers bloom and fade, winds blow, storms rage, showers fall and vapours rise, day comes and goes, suns rise and set, moons wax and wane, stars shine, and seasons change, seas ebb and flow, the lightnings flash, and thunders roar, valleys rise, and mountains fall, and fierce convulsions shake and rend the globe; but no eye gazes on the scene, no ear listens, no heart feels; but one unbroken desolation broods over all.

We go still further back and we reach a period when even vegetation disappears, and nothing but a bare and barren earth remains. The hills and plains have not a tree, a herb, or flower; not a fern, a moss, or a lichen. The Globe is a naked, bald, unvarying waste. And thus the earth remained thro' countless, measureless, unimaginable periods.

Would we know, then, the progress which the earth and man have made, we must measure the distance from this dreary point "in the far backward and abyss of time," to the point where we now stand, surrounded with infinite varieties and countless multitudes of living creatures, enriched with the innumerable and invaluable advantages of science and civilization, and all the blessings and endearments of peaceful homes and cultivated society. We must calculate the difference between all that is, and the blank and dreary desolation of the far-off past, and this will be the measure of the progress which the earth and man have made.

And still we progress.

We progress faster than heretofore.

We have fewer obstacles to progress.

We have more helps.

And greater numbers are engaging in aiding the work of progress.

And progress is still bestowing fresh blessings on our race, thus luring us ever onward.

It is extending the bounds of science.

It is elevating man's character.

It is improving his condition.

It is promoting peace and charity, and bringing men into

closer and happier relations with each other. And it promises ultimately to join all ranks and all nations in bonds of eternal amity.

There's a good time coming.
 The pen shall supersede the sword,
 And right, not might, shall be the lord,
 In the good time coming.
 Worth, not birth, shall rule mankind
 And be acknowledged stronger ;
 The proper impulse has been given ;
 Wait a little longer.

There's a good time coming ; a good time coming.
 Hateful rivalries of creed
 Shall not make their martyrs bleed,
 In the good time coming.
 Religion shall be shorn of pride,
 And virtue shall wax stronger,
 And charity shall trim her lamp,
 Wait a little longer.

Then let us pray, that come it may,
 As come it shall for a' that,
 When sense and worth, o'er a' the earth,
 Shall bear the sway, and a' that.
 For a' that, and a' that,
 It's coming yet for a' that,
 When man and man, the wide world o'er,
 Shall brothers be, and a' that.

Amen.

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